

Hyperion Asset Management

Company Profile

Intuitive Surgical, Inc.

Main Business Activities

Intuitive Surgical, Inc. (Intuitive Surgical) develops, manufactures, and markets the Da Vinci surgical and Ion endoluminal systems which are respectively robotic-assisted surgical equipment and diagnostic platforms. The company was founded in 1995 and the first Da Vinci system was approved by the U.S. Food and Drug Administration (FDA) in 2000 which coincided with the company's initial public offering. Intuitive Surgical's primary platform for robotic-assisted surgery is its family of 'Da Vinci' surgical systems. The systems are comprised of a surgeon's operational console, a patient-side cart (holds electromechanical arms that manipulate the instruments inside the patient), a high performance three dimensional high-definition vision system, and proprietary instruments and accessories. Other additional digital and robotic modules that assist in surgery are also available. Its technology is designed to provide surgeons with a range of motion that is very similar to the motions of the human wrist, while filtering out the tremors inherent in a human's hands.

Intuitive Surgical's products allow physicians and healthcare providers to improve the quality of, and access to minimally invasive care. The company has effectively had a monopoly on the robotic-assisted surgery market for 20 years with Da Vinci robots now having been used in over 8 million surgical procedures since the company's inception. The clinical application of Intuitive Surgical's Da Vinci systems is currently focused on five main areas of surgery: gynaecologic, urologic, general surgery, cardiothoracic and, head and neck surgery. Intuitive Surgical's catheter based robotic system 'Ion' received FDA approval in 2019 and will be used for lung biopsies initially.

The company's products are manufactured at in-house facilities in the United States and Mexico. Intuitive Surgical sells most of its product directly in the United States and Western Europe however utilises third party distributors in other parts of the world. The company invests heavily in product research & development and has spent over \$3 billion dollars to maintain its product leadership.

Key Value Proposition to Customers

The company's value proposition is fundamentally based on improving surgery and other acute interventions by enabling physicians and hospitals to improve outcomes for their patients, the patient care teams' experience, as well as lower the total cost to treat per patient episode via the use of smart, connected systems, robotic technologies, advanced imaging and data.

Hyperion summarises the value proposition into three core areas:

- 1) Patient value is provided through improved procedure efficacy (Da Vinci filters out surgeon tremors and has better imaging), and lower levels of invasiveness (minimally invasive surgery reduces patient trauma by allowing surgery to be performed through small ports rather than larger incisions). These factors result in faster recovery and better outcomes both of which are supported by ample clinical evidence;
- 2) Surgeon value is provided through precise and tremor-free control with advanced surgical instruments as well as better imaging and ergonomics on a multi-specialty surgical platform designed to perform a wide range of procedures. Surgeons are provided with reliable and easy-to-use products accompanied by advanced training; and
- 3) Hospital value is provided through improved patient outcomes. Furthermore, many published studies recognise that robotic-assisted surgery with the Da Vinci surgical system is a more cost-effective approach to many surgeries relative to alternative treatment options.

Sustainable Competitive Advantages and Outlook

Intuitive Surgical has a significant first-mover advantage with competitors only likely to gain FDA approval for first generation systems sometime between 2021 and 2023.

Intuitive Surgical benefits from having nearly 6,000 systems in operation across the globe that have performed over 8 million procedures since the company's inception. A large investment in surgeon training and then building experience is required which means switching costs are high. To ensure the company captures the next generation of surgeons it has also placed over 350 Da Vinci systems within 140 robotics programs in U.S. academic institutions for students to learn and practice on. An inadvertent network effect is created over time as an increasing number of systems are installed and surgeons trained on the Da Vinci robot.

The company's operating lease model locks customers in for five years and non-Intuitive Surgical instruments and accessories cannot be used with the system. Intuitive Surgical has over 80 proprietary instruments across many surgery applications which would likely be hard to replicate. The option to buy trade-in systems is another barrier as it effectively reduces the price of a new Da Vinci system relative to competitors.

The above combined with the thousands of clinical data reports, the technological breadth of the Da Vinci platform and the company's high level of product research and development result in a large and highly durable competitive advantage.

Overall Company Growth Options

Intuitive Surgical has a significant runway of organic growth opportunities. It is likely that a large proportion of the company's growth will come from share gains at the expense of conventional open surgery and laparoscopic procedures. Intuitive Surgical's future growth is a function of both general surgical procedure numbers increasing and structural tailwinds. The overall number of applicable procedures continue to increase at roughly 5% per annum while structural tailwinds are the result of an ageing global population, specifically in developed countries. Additionally, the propensity to opt for robotic surgery at both the patient and doctor level is increasing given the growing evidence of better outcomes.

The addressable market across Intuitive Surgical's core applications is large and growing. The company's current Da Vinci applications address gynaecologic, urologic, general surgery, cardiothoracic and head and neck surgery. General surgery is the largest growth opportunity for Intuitive Surgical. Hyperion estimates that robotic-assisted surgery accounts for a small proportion of the total number of surgeries. Certain sub-segments of general surgery such as colorectal, have higher robotic penetration, however the market continues to expand as new applications are developed. Bariatric and lung cancer diagnosis added 1 million procedures that Intuitive Surgical can perform in 2020. Hyperion estimates that the robotic penetration of applicable procedures was under 3% globally in 2020 and it is likely this remained relatively low given the impact that the COVID-19 pandemic had on all surgical procedure developments.

Other growth drivers include:

- 1) The Ion robotic lung diagnostic system (released in 2019);
- 2) The number of physicians trained on Da Vinci continues to grow at strong double digit in key applications;
- 3) Instrument and accessory sales continuing to compound revenue growth;
- 4) Replacement of the Da Vinci SI and other older systems which represent nearly half of all Da Vinci systems installed globally;
- 6) China penetration and further opening of the market; and
- 7) Ongoing innovation including flexible and lower cost-per-use instrumentation.

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